

The advance of the anticyclonic area of the 13th-16th was attended by colder weather, for which cold-wave warnings were issued for the northern portion of the district on the 13th and extended over most interior sections of the district on the 14th. As the LOW in advance of the HIGH decreased greatly in intensity and the HIGH settled with crest over the Plateau States, the fall in temperatures was not sufficient to verify cold wave warnings in much of the area covered by the warnings.

A cold wave on the 20th-21st occurred in the northern portion of the district, following an eastward moving trough of low pressure. The high pressure following this LOW moved slowly over the Gulf States, prolonging the period of cold weather until the 24th.

Livestock warnings were issued for Oklahoma and north portion of west Texas on the morning of Saturday, the 26th, with a prediction of much colder weather Sunday and Sunday night; and much colder Sunday night was forecast for Arkansas. The 8 p. m. map of the 26th revealed such rapid southward progress of the area of high pressure that warnings for a severe cold wave were issued for the entire district, and these warnings were repeated the next morning for most sections of the district, with more specific temperature forecasts. Warnings for stockmen were included in the cold-wave warnings. The cold wave advanced to the coast as forecast, with the lowest temperatures of the month on the 28th, and was attended by strong northerly winds, for which north-west storm warnings were issued for the Texas coast at 8:30 p. m. of the 26th and small-craft warnings were displayed on the Louisiana coast on the 27th.

Warnings for frost or freezing temperature were issued for the more southern portions of the district on the 4th, 5th, 15th, 16th, 17th, 21st, 22d, 23d, 25th, and 28th. Conditions occurred mostly as forecast.

Fire-weather warnings were sent to addresses in Arkansas, Oklahoma, and Texas on the 3d. Norther warnings for Tampico, Mexico, were issued to interests concerned on the 15th and 27th.—*R. A. Dyke.*

#### DENVER FORECAST DISTRICT

Temperatures averaged above normal except in New Mexico, where it was unusually cold, especially in the extreme south portion. Precipitation was considerably above normal in eastern Colorado and excessive in the extreme north-central portion; in all other parts of the district it was deficient. The notable meteorological feature of the month was that practically all of the energetic disturbances that affected the district appeared in or crossed eastern Colorado and there were none of the usual winter developments of LOWs in the Plateau region. Warnings of moderate cold waves were issued for southeastern New Mexico on the mornings of the 14th and 20th, of a severe cold wave for eastern Colorado and a moderate cold wave for eastern New Mexico on the evening of the 26th, the latter being repeated as a livestock warning for eastern New Mexico on the morning of the 27th. All of these warnings were fully verified as to temperature, but the snow forecast on the 27th for eastern New Mexico did not occur, so that the livestock

warning was not justified. Warnings of frost or freezing temperature for south-central and southeastern Arizona were issued on 18 days, the greater part of them being verified.—*E. B. Gittings, jr.*

#### SAN FRANCISCO FORECAST DISTRICT

During the month of December, 1925, the weather in this district was dominated by a series of high-pressure areas which moved in from the Pacific Ocean and became more or less stagnant over the Plateau region. This condition caused storms from the North Pacific Ocean to move eastward at an unusually high latitude for this season of the year. When these areas of high pressure moved eastward or disintegrated, the storms swung farther south and gave precipitation in this district.

There were three wet periods during the month; on the 1st and 2d and from the 18th to the 23d rain or snow occurred generally throughout the district, and from the 10th to the 13th, in the North Pacific States and Idaho. On the 28th local rain occurred in southern California. Tule fog prevailed in the Sacramento and San Joaquin Valleys during the third decade.

Frosts occurred quite often in northern California but caused no material damage.

Storm warnings were ordered along the coast 8 times, and, while verifying velocities at coast stations did not occur on all occasions, vessel reports at sea indicated the warnings were justified.—*G. H. Willson.*

#### RIVERS AND FLOODS

By H. C. FRANKENFIELD

As will be noted in the table following this report, no floods of consequence occurred during the month.

Near the end of the month the Mississippi River was frozen as far down as the mouth of the Missouri River; at St. Louis heavy ice began running on the night of the 22d and by the morning of the 23d the river was full of thick cakes, causing a suspension of navigation. On this date also navigation was temporarily suspended in the lower Missouri for the same reason. Forecasts of these conditions were issued by the St. Louis office of the Weather Bureau in ample time to permit the safeguarding of boats, barges, and other floating property on both the Missouri and Mississippi in that district. Floating ice had been observed at New Madrid, Mo., by the end of the month, but none was reported at more southerly stations.

River	Station	Flood stage	Above flood stages—dates		Crest	
			From—	To—	Stage	Date
Mississippi drainage:		<i>Feet</i>			<i>Feet</i>	
Petit Jean.....	Danville, Ark.....	20	15	18	22.1	Dec. 16
Black.....	Corning, Ark.....	9	(1)	17	13.1	Nov. 15
	Black Rock, Ark.....	14	5	6	14.0	Dec. 5-6
Cache.....	Patterson, Ark.....	9	8	9	9.0	Dec. 8-9
Pacific drainage:						
Gila.....	Kelvin, Ariz.....	5	3	3	5.5	Dec. 3

<sup>1</sup> Continued from last month.